MWH

December 30, 2004

Timothy J. Prendiville
Remedial Project Manager
United States Environmental Protection Agency, Region 5
Mail Code SR-J6
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Fourth Year Prairie Restoration Monitoring Report
Blackwell Forest Preserve Landfill Site

Dear Mr. Prendiville:

On behalf of the Forest Preserve District of DuPage County (FPD), we are pleased to submit two copies of the 2004 Monitoring Report for the Blackwell Landfill Prairie Restoration (Fourth Year Report). In accordance with the December 2000 Revised Phase I Restoration Plan for the Revegetation of the Blackwell Landfill (Phase I Plan), this report summarizes the progress of the restoration strategy, fourth year maintenance tasks (including the controlled burn), and the vegetation growth assessment using the Floristic Quality Assessment (FQA) method. The Fourth Year Report was prepared by Conservation Design Forum, a subcontractor to MWH that provided technical oversight during the prairie restoration activities undertaken in 2004.

This Fourth Year Report indicates that the prairie revegetation is developing as expected after the third full growing season. The Report also indicates that an increase in prairie species diversity is expected in the coming years as the prairie matures.

In accordance with the December 2000 Phase I Plan, the FPD will continue to provide prairie restoration stewardship and will submit the Fifth Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration during the first quarter of 2005.

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CONSERVATION DESIGN FORUM

Landscape Architecture • Community Planning • Ecological Restoration • Resource Management

FOURTH-YEAR RESTORATION MONITORING REPORT FOR THE

BLACKWELL LANDFILL PRAIRIE RESTORATION

Prepared for:

MWH
175 West Jackson Boulevard
Suite 1900
Chicago, Illinois 60604-2814

December 2004

If you have questions on this restoration, please contact me at (312) 831-3466.

Sincerely,

MWH Americas, Inc.

Peter J. Vagt, Ph.D., CPG
Project Coordinator

cc: Rick Lanham – Illinois Environmental Protection Agency
Joseph Benedict – Forest Preserve District of DuPage County
David Barritt – Chapman and Cutler (without attachments)

Attachments: Fourth-Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration

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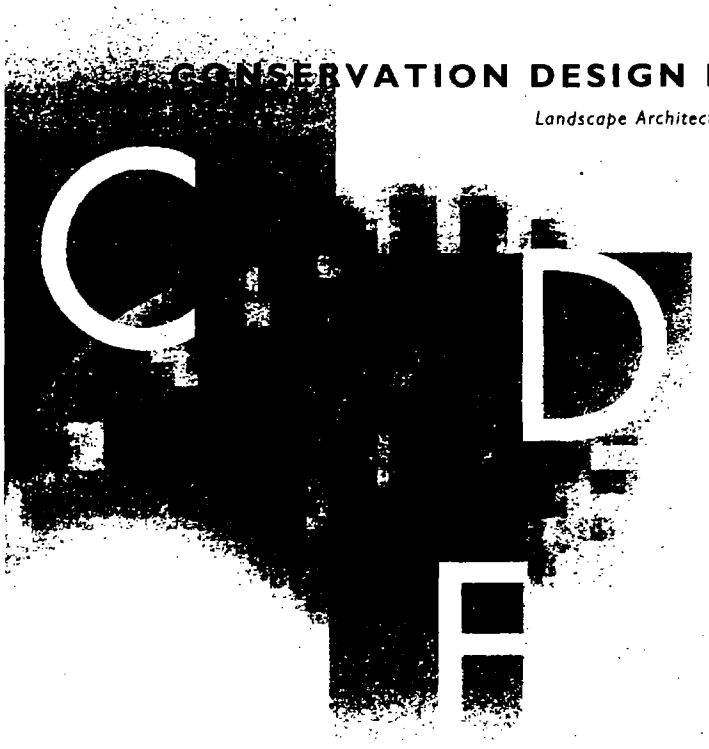


FOURTH-YEAR RESTORATION MONITORING REPORT FOR THE BLACKWELL LANDFILL PRAIRIE RESTORATION

Prepared for:

MWH
175 West Jackson Boulevard
Suite 1900
Chicago, Illinois 60604-2814

December 2004

FOURTH-YEAR RESTORATION MONITORING REPORT

FOR THE

BLACKWELL LANDFILL PRAIRIE RESTORATION

Warrenville, Illinois

Prepared for:

MWH
175 West Jackson Boulevard
Suite 1900
Chicago, Illinois 60604-2814

December 2004

CONSERVATION DESIGN FORUM
Project No. 04005.00

Prepared by: Kenneth C. Johnson

Date: 21 December 2004

Kenneth C. Johnson
Project Manager
Principal of Ecological Services

TABLE OF CONTENTS

EXECUTIVE SUMMARY

- This report documents restoration activities and vegetation monitoring that occurred during the 2004-calendar year at the Blackwell Landfill prairie restoration.

- The primary stewardship activities included: prescribed burn management, weed control, and over-seeding. In addition, fire breaks were mowed late in the growing season in preparation of a controlled burn that is scheduled for the spring of 2005.

- The results of the vegetation monitoring indicate that the landscape is developing as should be expected for a recently-installed prairie reconstruction. Some portions of the landscape lack uniform prairie cover due in part to the challenging site conditions such as dense weed cover and compacted soils. In other portions of the site, however, the prairie vegetation is well established. The data represent the third full-growing season of the landscape.

INTRODUCTION

PROJECT SITE LOCATION AND PURPOSE

As depicted on EXHIBIT A – PROJECT LOCATION MAP, Blackwell Landfill is located north of Butterfield Road (Route 56), between Batavia Road and Winfield Road, in Warrenville, DuPage County, Illinois (SW1/4, Section 26, T39N, R9E). The site is owned and operated by the Forest Preserve District of DuPage County, Illinois. As detailed on EXHIBIT B – BLACKWELL LANDFILL PRAIRIE RESTORATION, the project area includes most of the slopes across the landfill at the forest preserve.

The purpose of the prairie restoration monitoring is two-fold. First, restoration monitoring is a fundamental component to all *de novo* ("from scratch") native landscape creations in order to assess the vegetation development from year to year and make recommendations as to proper land management. Another important purpose of the monitoring at this site is to provide data to the U.S. Environmental Protection Agency in regards to the development of the native landscape across the landfill slopes as outlined in the approved restoration plan (Montgomery Watson Harza and Conservation Design Forum, 2000).

RESTORATION ACTIVITIES CONDUCTED IN 2004

The following is a chronological list of the native landscape management activities that were conducted at the Blackwell Landfill Prairie Restoration site in 2004. [See earlier monitoring reports for activities that were conducted in previous years.]

- On April 20th, a burn crew from the Forest Preserve District of DuPage County attempted a landscape burn. Most of the vegetation was too coarse to carry a fire; however, the area of prairie grasses that have become well established (located generally in the northeastern portion of the site) did carry a fire and the burn was successful.
- From May 18th through 20th, and again on May 26th, June 2nd, and June 16th, the focus of the maintenance work was on the steep back slopes of the restoration. New growth of Garlic Mustard, Crown Vetch, and Sow Thistle, in particular, were cut down and the debris removed. This was followed by hand seeding of Seed Oats, Annual Rye, and common prairie grasses. The prairie grasses used are listed in APPENDIX I. The seed was raked into the soil by hand, and in some areas an erosion blanket was rolled out across the re-seeded area.
- On June 16th, June 23rd, and June 25th, select broad-leaf herbicide (*Speed Zone*; *Translene*) was spayed on Field Thistle, Crown Vetch, Bird's Foot Trefoil, White Sweet Clover, and Red Clover across all portions of the project site.
- The annual restoration monitoring event occurred on September 24th. The data represent the third full-growing season of the landscape.
- On October 12th, 13th, and 19th, select broad-leaf herbicide (*Translene*) was sprayed on miscellaneous clovers, Crown Vetch, and Field Thistle across the project site.
- On October 19th, prairie seed was hand collected from areas of well-established prairie vegetation and was sown across the southern portions of the site where prairie species are poorly disposed.
- In the second week of November, fire breaks were mowed around the fences, the prairie perimeter, and around gas vaults in preparation for a spring 2005 controlled burn.

Overall, the maintenance activities were performed in a timely and professional manner by the staff of McGinty Brothers, Inc. (Long Grove, IL), the landscape maintenance contractor.

MONITORING METHODS

Although there are many ways to monitor *de novo* restorations and measure their performance, the approach utilized in this project emphasizes vegetation development and floristic quality assessment (FQA) methods. This is consistent with the approved landscape restoration plan and this monitoring strategy has been utilized at the site over the past three years. In summary, the vegetation is sampled along transect lines established within representative portions of the project site, and a qualitative inventory of the vegetation across the entire landscape is recorded as well. These vegetation sampling protocols are repeated every year so that trends in floristic development can be monitored over time.

A critical component in the evaluation of a restoration is to determine the extent of native species recruitment and establishment across the landscape. A useful method in the determination of floristic quality is through an analysis of the conservatism and diversity of species that are recorded during the monitoring event. Conservatism represents the degree to which an experienced field botanist has confidence that a given species is representative of a high-quality, remnant habitat (i.e., those natural areas with intact presettlement structure, composition, and processes). Native plant species display varying degrees of tolerance to disturbance, as well as varying degrees of fidelity to specific habitat integrity. Native plants of a given region exhibit an observable range of conservatism, and each native species can be assigned a *coefficient of conservatism* (C value) ranging from 0 to 10, "weedy to conservative," that reflects its disposition.

The Mean C is the average coefficient of conservatism for a site. The floristic quality index (FQI) is a statistic derived by multiplying Mean C by the square root of the number of species inventoried; thus, the FQI is a function of conservatism and diversity. In general, site inventories with FQI values less than 20 are degraded or derelict plant communities, or are very small habitat remnants. Site inventories with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When site inventories have FQI values in the middle thirties or higher, and/or have Mean C values of 3.4 or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Site inventories with indices in the middle forties and higher are undoubtedly significant natural area remnants of statewide importance.

As management and time cause changes to take place, Mean C and FQI values will reflect the extent to which conservative species are being recruited and the floristic quality is improving. If an inventoried site has a large proportion of conservative plants, the Mean C is higher; in a degraded site, the Mean C is lower. The presence of a large proportion of adventive species and non-conservative native species suggest that an area is degraded. The Mean C and FQI values for a sampling transect are calculated for the transect as a whole and for the average quadrat; a comparison of floristic values between the transect and quadrat level is useful to understand the uniformity of native species establishment.

Another useful measurement that is important in the evaluation of a *de novo* landscape restoration is that of the wetness value (W). Each plant species has been assigned a wetness category that indicates its probability of occurrence in a wetland. Plants are designated as *Obligate Wetland* (OBL=-5), *Facultative Wetland* (FACW=-3), *Facultative* (FAC=0), *Facultative Upland* (FACU=3), and *Obligate Upland* (UPL=5). For about 20% of our flora, a

"+" or "–" sign has been attached to the three *Facultative* categories to express the exaggerated tendencies of those species. The "+" sign denotes that the species generally has a greater estimated probability of occurrence in wetlands; the "–" sign denotes that it generally has a lesser estimated probability of occurrence in wetlands. Mean wetness values can be compared from year to year to gain an understanding on what type of plant species have become established across the restoration site.

Four (4) straight-line transects have been established across the prairie restoration. A description of each transect location is as follows, and their locations are depicted on EXHIBIT B. These are the same transects used in the restoration monitoring events that were conducted in the previous three years.

Transect 1 is located at vault cover "DV 10" in the northwestern portion of the site. The transect is oriented 0° north, and the first quadrat is placed 10 paces north of the vault cover.
Transect 2 is located at vault cover "DV 17" in the western portion of the site. The transect is oriented 90° east, and the first quadrat is placed 5 paces east of the vault cover.
Transect 3 is located at vault cover "DV 13" in the southeastern portion of the site. The transect is oriented 180° west. The first quadrat is placed 5 paces west of the vault cover.
Transect 4 is located at vault cover "DV 18" in the northeastern portion of the site. The transect is oriented 45° northeast. The first quadrat is placed 5 paces northeast of the vault cover.

A 0.25m² quadrat is placed at 10-pace intervals along each transect line until 10 quadrats are sampled. The vegetation within each quadrat is identified and given a relative cover/abundance number from 1 to 5 as shown in the table below. A compass is used to stay on the correct orientation, and photographs are taken at the start of each transect in order to document the current site conditions.

COVER/ ABUNDANCE NUMBER	APPROXIMATE COVER
1	1 to 5 plants present
2	5% to 25% cover
3	25% to 75% cover
4	Common/scattered throughout
5	Ubiquitous

The cover/abundance data is used to determine the relative importance value (RIV) for each species recorded along a transect. The RIV of each species is calculated by summing relative frequency and relative cover and dividing by 2. This and other information gathered via transect sampling offers important quantitative data that is used to interpret the development of the native landscape.

RESULTS AND DISCUSSION

The results of the plant inventories and transect sampling are presented below. The field work occurred on September 24th, 2004, and was performed by Kenneth Johnson. The weather conditions during the monitoring event were partly sunny, with air temperatures around 75° Fahrenheit, so sampling conditions were optimum. Photographs taken during the field work are included at the back of the report. Refer to EXHIBIT B for a plan view of the project site.

GENERAL PLANT INVENTORY AND FQA DATA

The results of the plant inventory and associated FQA data for the Blackwell Landfill prairie restoration are presented in APPENDIX II. The table below summarizes the total number of native species recorded during the inventory (NS), along with the percent that these native species comprise of all plants recorded (%TS). The last two columns are the native Mean C and FQI values. For comparative purposes, these same data are presented from the restoration monitoring conducted in the previous three years. Also shown is similar data from 1999 when a fall vegetation inventory of the landfill slopes was conducted (as part of the initial planning efforts for the landfill landscape, prior to any landscape restoration).

PLANT INVENTORY & FQA DATA SUMMARY			
Year	NS (%TS)	Mean C	FQI
1999	37 (44%)	1.8	11
2001	53 (47%)	1.7	13
2002*	42 (46%)	2.2	14
2003	71 (56%)	2.5	22
2004	72 (55%)	2.8	23

* = First full-growing season.

Overall, the most frequently encountered species noted during the meander/inventory in September of 2004 were Hairy Aster, Horseweed, cool-season Eurasian grasses such as Smooth Brome and Orchard Grass, and prairie grasses such as Side-oats Grama and Canada Wild Rye. On the steep back slopes Garlic Mustard, Crown Vetch, and Prickly Lettuce continue to be common along with Smooth Brome.

The results of the inventory data indicate a positive trend in the establishment of the initial landscape restoration over the past few years. Based upon these data and general site observations during the 2004 calendar year, the prairie is developing as expected for having completed its third full-growing season since installation (installation occurred in early summer of 2001). Some portions of the landscape have been slow to establish a uniform cover of prairie vegetation due to excessive weed growth and compacted soils. On the other hand, other portions of the site have a well-established cover of prairie grasses and forbs and have performed better than is typically expected at this early stage of landscape maturation. It is likely that these FQA values will level off at or around their current levels unless a program for species enrichment is planned and implemented.

TRANSECT SAMPLING AND FQA DATA

The results of the four straight-line transects are presented in APPENDIX III. As stated above, each transect runs through a representative portion of the prairie landscape, and each is the same as that sampled in the three previous years. Transect sampling helps to quantify the vegetation changes and landscape development at the site. A comparison of floristic values between the transect and the quadrat level data is useful to understand the uniformity of native species establishment.

The table below presents a summary of the data collected for each transect. The aggregate transect data are presented separately from the average quadrat data. The number of native taxa (NT) is given; the native Mean C; and the native FQI. The results from the previous three years are included for comparative purposes.

TRANSECT/YR	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
	NT	MEAN C	FQI	NT	MEAN C	FQI
T1						
2001	6	2.5	6	1.7	0.7	1.0
2002	11	1.8	6	2.4	2.7	4.2
2003	12	2.7	9	3.1	2.9	5.0
2004	10	3.1	10	2.6	4.8	6.9
T2						
2001	9	3.0	9	0.9	0.5	1.1
2002	8	2.5	7	1.4	2.6	3.7
2003	11	2.7	9	2.0	2.3	3.7
2004	17	2.8	11	2.4	1.3	2.4
T3						
2001	8	0.6	2	2.1	0.2	0.3
2002	11	2.1	7	2.8	1.4	2.6
2003	12	2.7	9	3.7	2.1	4.5
2004	15	3.0	12	2.9	3.1	4.9
T4						
2001	8	0.6	2	2.4	0.1	0.3
2002	13	3.0	11	3.3	4.4	7.3
2003	22	3.1	15	5.6	3.2	7.9
2004	16	4.0	16	4.6	4.7	9.7

In regards to the 2004-transect data summary, all transects show a slight increase in Mean C and FQI values from last year. In regards to the average quadrat data:

- Transect 1 has an unusually high Mean C value (4.8) due to the high RIV of Side-oats Grama sampled along the transect.
- Transect 2 has the least impressive Mean C and FQI values and reflects the conditions on the back slopes of the landfill where prairie establishment has been sporadic. For example, during the 2004 growing season much of the vegetation in this portion of the site was cut down and/or herbicided, and re-seeding occurred; these actions help to explain why the FQA values lag behind other portions of the site since they disrupt the establishment of native species as well as undesirable weeds.
- Transect 3 is slowly improving and a general impression is that there is a better establishment of prairie grasses in this portion of the site than in past years.
- Transect 4 continues to have unusually high FQA values for a relatively young native landscape restoration. As stated in last years report, this area of the site is well-

established in prairie grasses and forbs; these results are impressive and likely will level off near these current figures.

The four tables below summarize the relative importance values (RIV) for the top 50% of species from each transect. The results from the previous three year's sampling are included for comparative purposes. Brackets ([ ]) indicate the species was recorded in the sampling but not in the top 50% for that year, and a dash (-) indicates that it was not recorded during the sampling event. Following each native species is its assigned C value (in parenthesis). Adventive species are in ALL CAPS. Species followed by an asterisk (*) were introduced to the site as part of the initial prairie seed installation in the summer of 2001, and from the reseeding efforts in 2002 and 2003.

TRANSECT 1	RELATIVE IMPORTANCE VALUE			
SPECIES (C VALUE)	2001	2002	2003	2004
Bouteloua curtipendula (8)*	[1.5]	14.8	11.7	19.3
DACTYLUS GLOMERATA	-	-	[2.6]	9.6
Elymus canadensis (4)*	-	-	-	7.8
Ambrosia artemisiifolia (0)	-	12.3	6.7	6.1
BROMUS INERMIS	-	-	-	6.1
MELILOTUS ALBA	[2.0]	22.7	[1.3]	6.1
HIBISCUS TRIONUM	9.0	[2.0]	8.0	[3.3]
Echinochloa crusgalli (0)	22.1	[5.2]	12.2	-
TRIFOLIUM PRATENSE	-	-	8.8	-
SETARIA FABERI	-	[1.6]	5.7	-
FESTUCA ELATIOR	[2.0]	7.1	[3.6]	-
DIGITARIA ISCHAEMUM	24.4	-	-	-

TRANSECT 2	RELATIVE IMPORTANCE VALUE			
SPECIES (C VALUE)	2001	2002	2003	2004
CORONILLA VARIA	25.5	19.7	14.1	13.2
LACTUCA SERRIOLA	-	-	[3.5]	8.9
BROMUS INERMIS	11.1	[2.5]	7.9	7.2
ALLIARIA PETIOLATA	9.1	6.9	8.8	7.0
Aster pilosus (0)	-	-	[4.0]	6.7
AGROPYRON REPENS	-	-	-	4.6
Erigeron canadensis (0)	-	-	-	4.6
ATRIPLEX PATULA	5.9	-	-	[4.1]
Panicum virgatum (5)*	-	5.6	5.3	[2.2]
Bouteloua curtipendula (8)*	[2.7]	9.4	4.8	[1.7]
Solidago altissima (1)	-	[4.4]	4.4	[1.7]
LEPIDIUM CAMPESTRE	-	-	6.1	-
SOIL	[2.1]	11.0	-	-

TRANSECT 3	RELATIVE IMPORTANCE VALUE			
SPECIES (C VALUE)	2001	2002	2003	2004
POA PRATENSIS	-	[4.9]	12.9	16.7
AGROPYRON REPENS	-	-	-	11.7
BROMUS TECTORUM	-	-	-	7.8
Bouteloua curtipendula (8)*	-	[6.8]	12.4	7.3
Ambrosia artemisiifolia (0)	[2.5]	7.2	11.9	7.2
Ambrosia trifida (0)	-	[6.8]	13.2	[3.9]
SETARIA FABERI	21.9	16.7	[2.3]	[1.4]
Echinochloa crusgalli (0)	21.9	14.0	-	-
Polygonum pensylvanicum (0)	7.7	12.5	-	-

TRANSECT 4	RELATIVE IMPORTANCE VALUE			
SPECIES (C VALUE)	2001	2002	2003	2004
Andropogon scoparius (5)*	-	[1.5]	5.6	17.1
Sorghastrum nutans (5)*	-	[1.8]	[2.4]	11.3
Bouteloua curtipendula (8)*	-	14.4	7.3	10.3
Panicum virgatum (5)*	-	5.2	[3.4]	9.4
Aster pilosus (0)	-	-	[1.0]	7.5
CIRSIUM ARVENSE	-	[3.3]	4.4	[4.1]
Heliopsis helianthoides (5)*	-	[2.2]	4.4	[3.3]
Rudbeckia hirta (1)*	[1.1]	4.4	5.8	[3.3]
Andropogon gerardii (5)*	-	[3.0]	7.2	[1.9]
SETARIA FABERI	-	14.7	[3.8]	[1.4]
SETARIA GLAUCA	[4.5]	6.3	[1.0]	[1.4]
LACTUCA SERRIOLA	-	[3.3]	10.5	-
LOLIUM MULTIFLORUM	14.7	[1.5]	5.0	-
Polygonum pensylvanicum (0)	12.1	-	[1.0]	-
Echinochloa crusgalli (0)	11.3	7.4	-	-
ABUTILON THEOPHRASTI	8.3	[2.6]	-	-
CHENOPODIUM ALBUM	7.6	-	-	-

Weed control (e.g., Garlic Mustard; Crown Vetch) and prairie grass over-seeding continues to be the management focus on the back slopes, as sampled by Transect 2. Positive results of this management should become evident over the next few years as native grasses germinate and become better established in this portion of the site. On the other hand, most of Transect 4 extends across a well-established stand of prairie species. It should be emphasized that this area of the landfill has a relatively gentile slope and in addition, there was little if any soil compaction prior to seeding. There is reason to believe that with annual burn management, continued weed maintenance, and native seed collection and dispersal over the next few years, the other portions of the site will have values similar to Transect 4.

A combined assessment of all forty (40) quadrats from each year is summarized in the table below. With four years of data, this analysis offers an aggregate performance of the entire site as a whole from year to year.

TRANSECT/YR	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	19	1.6	7	1.8	0.4	0.7
2002	20	2.1	9	2.5	2.8	4.5
2003	33	2.3	13	3.6	2.6	5.3
2004	31	3.2	18	3.1	3.5	6.0

As with the individual transect summaries, these data indicate that the landscape is doing well and show a positive trend in FQA values.

SEEDED SPECIES RECRUITMENT

An alphabetical list of the 37 native species that were seeded as part of the prairie landscape installation in May and June of 2001 are presented in APPENDIX IV. Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the 2004-monitoring event it is indicated with a "Y", and if not it is indicated with a "N". The columns to the right summarize the RIV of each species if recorded during the transect sampling; these same data from 2001, 2002, and 2003 are shown for comparison.

In summary, twenty-six (26) of the 37 seeded species were recorded during the monitoring event in September of 2004; nineteen (19) were recorded in 2003, twelve (12) were recorded in 2002, and ten (10) were recorded in 2001. None of the seeded species were in the top 50% RIV in the first two years of the native landscape restoration (2001 and 2002). Six species were in the top 50% RIV in 2003, including: Big Bluestem Grass; Little Bluestem Grass; Side-oats Grama; Switch Grass; False Sunflower; and Black-eyed Susan. In 2004, five species were in the top 50% RIV, including: Little Blue Stem Grass; Side-oats Grama; Canada Wild Rye; Switch Grass; and Indian Grass. Future restoration monitoring should be compared to these data in order to show trends in the establishment of the intended native landscape. With time and proper land management there should be an increase in native species recruitment and quality across all areas of the restoration site.

The number of seeded species recorded during the monitoring event and their Mean C value is summarized in the table below. The data are compared to data from the previous three years and the initial seed matrix. With time and proper land management there should be an increase in the number of seeded species recorded from the site.

SEEDED SPECIES RECRUITMENT		
YEAR	NO. SPECIES	MEAN C
2001 Seeding	37	5.6
2001	10	4.5
2002*	12	4.8
2003	19	5.3
2004	26	5.3

* = First full-growing season.

In general, after four (4) full-growing seasons approximately 40% of the seeded species should be recorded in a site inventory—and if so, then the initial seeding should be considered satisfactory. Based upon the 2004 data, after three full-growing seasons approximately 70% of the seeded species are present across the project site. It should be noted, however, that some species (e.g., Canada Milk Vetch) are represented as one or a few individuals. Without a program for further species enhancement, it is likely these values will level off at or near these current levels.

The native Mean W of the site is summarized in the table below, and includes this same value from the 2001 and 2002 monitoring events. These are compared to the Mean W of the 37 seeded species.

MEAN W OF RESTORATION SITE				
2001 SEEDING	2001	2002	2003	2004
2.5	1.5	1.3	1.4	1.6

These data indicate that the site is recruiting from more mesic than dry-mesic species, and can be used to inform plant selection in future native species enhancement.

SUMMARY

As presented above, native land management activities across the Blackwell Landfill Prairie Restoration in 2004 included: prescribed burn management, select weed control, re-seeding, seed collection and dispersal, and fire break maintenance.

The results of the vegetation monitoring data are typical of landscape restorations that are in their early stages of development. Some areas of the landscape are developing well, in particular on the north- and east-facing slopes east of the toboggan run. Other areas will require more time and continued weed control and over-seeding. The long term goal for management of this landscape is to improve prairie cover across the entire restoration.

GENERAL REFERENCES

The following documents were reviewed and referenced in the preparation of this report.

Conservation Design Forum. (January) 2002. First Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. (December) 2002. Second-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2003. Third-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Montgomery Watson and Conservation Design Forum. 2001. Contractor Bid Package for Phase 1 Prairie Landscape Installation and Post-planting Maintenance. Warrenville, IL.

Montgomery Watson and Conservation Design Forum. 2000. Phase 1 Restoration Plan for the Revegetation of the Blackwell Landfill. Warrenville, IL.

Swink, F. and G. Wilhelm. 1994. Plants of the Chicago Region, 4th edition. Indiana Academy of Science. Indianapolis, Indiana.

Taft, J., G. Wilhelm, D. Ladd, and L. Masters. 1997. Floristic Quality Assessment for Vegetation in Illinois: A Method for Assessing Vegetation Integrity. Erigenia 14, pp. 3-95.

Wilhelm, G. and L. Masters. 1999. Floristic Quality Assessment and Computer Applications. Conservation Research Institute. Elmhurst, IL.

APPENDICES

APPENDIX I

PRAIRIE GRASSES USED IN OVER-SEEDING BACK SLOPE

The plants listed in the table below were hand-sown over portions of the steep slopes on the south and west sides of the landfill. This activity took place in late May and early June of 2004. See the report for more information.

SPECIES	COMMON NAME
Andropogon gerardii	Big Bluestem Grass
Andropogon scoparius	Little Bluestem Grass
Bouteloua curtipendula	Side-oats Grama
Elymus canadensis	Wild Canada Rye
Panicum virgatum	Switch Grass
Sorghastrum nutans	Indian Grass

APPENDIX II

VEGETATION INVENTORY & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the inventory data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region, 1994*. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. The plant inventory and assessment is divided into 2 sections as follows.

Section 1 includes three tables that summarize the inventory assessment data. The table to the left is an analysis of the floristic quality of the project area. In addition to listing the number of native species and total number of species, the mean coefficient of conservatism (MEAN C), floristic quality index (FQI), and mean wetness (MEAN W) values are presented. These are calculated once for native species only, and a second time including adventive species (W/Adventives). The two other tables summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H=herbaceous).

Section 2 includes the plant inventory arranged alphabetically, with each species preceded by its database acronym and coefficient of conservatism (C=0 to 10, weedy to conservative); and followed by its wetness coefficient (W=-5 to +5, wet to dry), corresponding national wetland indicator status (OBL=obligate wetland species, FAC=facultative species, UPL=upland species), physiognomic group, and common name. Adventive species are written in ALL CAPS and have an asterisk (*) for their C value.

The Mean C is the average coefficient of conservatism for the site. The FQI is derived by multiplying Mean C by the square root of the number of species present. In general, sites with FQI values less than twenty are degraded or derelict plant communities, or are very small habitat remnants. Sites with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When sites have FQI values in the middle thirties or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Sites with indices in the middle forties and higher are often also statewide significant natural areas.

Site: **Blackwell Landfill Prairie Restoration**
Locale: Warrenville - DuPage Co., IL
Date: September 24, 2004
By: Conservation Design Forum (K Johnson)

Section 1. Summary Tables

FLORISTIC QUALITY DATA		Native			Adventive		
72	NATIVE SPECIES	Tree	8	6.1%	Tree	2	1.5%
131	Total Species	Shrub	3	2.3%	Shrub	1	0.8%
2.8	NATIVE MEAN C	W-Vine	3	2.3%	W-Vine	0	0.0%
1.5	W/Adventives	H-Vine	0	0.0%	H-Vine	0	0.0%
23.3	NATIVE FQI	P-Forb	36	27.5%	P-Forb	16	12.2%
17.3	W/Adventives	B-Forb	2	1.5%	B-Forb	13	9.9%
1.6	NATIVE MEAN W	A-Forb	8	6.1%	A-Forb	14	10.7%
2.0	W/Adventives	P-Grass	8	6.1%	P-Grass	9	6.9%
AVG:	Fac. Upland (+)	A-Grass	3	2.3%	A-Grass	4	3.1%
		P-Sedge	1	0.8%	P-Sedge	0	0.0%
		A-Sedge	0	0.0%	A-Sedge	0	0.0%
		Cryptogam	0	0.0%			

Section 2. Species Inventory

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
ACENEG	0	Acer negundo	-2	FACW-	Nt Tree	BOX ELDER
ACESAI	0	Acer saccharinum	-3	FACW	Nt Tree	SILVER MAPLE
ACHMIL	0	ACHILLEA MILLEFOLIUM	3	FACU	Ad P-Forb	YARROW
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
AGRALA	0	AGROSTIS ALBA	-3	FACW	Ad P-Grass	REDTOP
ALLPET	0	ALLIARIA PETIOLATA	0	FAC	Ad B-Forb	GARLIC MUSTARD
AMARET	0	AMARANTHUS RETROFLEXUS	2	FACU+	Ad A-Forb	ROUGH AMARANTH
AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-Forb	COMMON RAGWEED
AMBTRI	0	Ambrosia trifida	-1	FAC+	Nt A-Forb	GIANT RAGWEED
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	*Andropogon scoparius*	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ARCMIN	0	ARCTIUM MINUS	5	UPL	Ad B-Forb	COMMON BURDOCK
ASCSYR	0	Asclepias syriaca	5	UPL	Nt P-Forb	COMMON MILKWEED
ASCVER	1	Asclepias verticillata	5	UPL	Nt P-Forb	WHORLED MILKWEED
ASTERI	5	Aster ericoides	4	FACU-	Nt P-Forb	HEATH ASTER
ASTLAE	9	Aster laevis	5	UPL	Nt P-Forb	SMOOTH BLUE ASTER
ASTNOV	4	Aster novae-angliae	-3	FACW	Nt P-Forb	NEW ENGLAND ASTER
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
ASTSAD	2	Aster sagittifolius drummondii	3	[FACU]	Nt P-Forb	DRUMMOND'S ASTER
ASTCAN	10	Astragalus canadensis	5	[UPL]	Nt P-Forb	CANADIAN MILK VETCH
ATRPAT	0	ATRIPLEX PATULA	-2	FACW-	Ad A-Forb	COMMON ORACH
BARVUL	0	BARBAREA VULGARIS	0	FAC	Ad B-Forb	YELLOW ROCKET
BIDFRO	1	Bidens frondosa	-3	FACW	Nt A-Forb	COMMON BEGGAR'S TICKS
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BRANIG	0	BRASSICA NIGRA	5	UPL	Ad A-Forb	BLACK MUSTARD
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
BROTEC	0	BROMUS TECTORUM	5	UPL	Ad A-Grass	DOWNY BROME
CHEALB	0	CHENOPODIUM ALBUM	1	FAC-	Ad A-Forb	LAMB'S QUARTERS
CICINT	0	CICHORIUM INTYBUS	5	UPL	Ad P-Forb	CHICORY
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CIRVUL	0	CIRSIUM VULGARE	4	FACU-	Ad B-Forb	BULL THISTLE
CONMAC	0	CONIUM MACULATUM	-3	FACW	Ad B-Forb	POISON HEMLOCK
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
CORPAL	6	Coreopsis palmata	5	UPL	Nt P-Forb	PRAIRIE COREOPSIS
CORTRP	5	Coreopsis tripteris	0	FAC	Nt P-Forb	TALL COREOPSIS
CORRAC	1	Cornus racemosa	-2	FACW-	Nt Shrub	GRAY DOGWOOD
CORVAR	0	CORONILLA VARIA	5	UPL	Ad P-Forb	CROWN VETCH
CYPESC	0	Cyperus esculentus	-1	[FAC+]	Nt P-Sedge	FIELD NUT SEDGE
DACGLO	0	DACTYLIS GLOMERATA	3	FACU	Ad P-Grass	ORCHARD GRASS
DAUCAR	0	DAUCUS CAROTA	5	UPL	Ad B-Forb	QUEEN ANNE'S LACE
DESCAA	4	Desmodium canadense	1	FAC-	Nt P-Forb	SHOWY TICK TREFOIL
DIPLAC	0	DIPSACUS LACINIATUS	5	UPL	Ad B-Forb	CUT-LEAVED TEASEL
ECHPUR	3	Echinacea purpurea	5	UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ECHCRU	0	Echinochloa crusgalli	-3	FACW	Nt A-Grass	BARNYARD GRASS
ECHWAL	8	Echinochloa walteri	-5	OBL	Nt A-Grass	SALT-MARSH COCKSPUR GRASS
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE

ERASPE	3	Eragrostis spectabilis	5	UPL	Nt	P-Grass	PURPLE LOVE GRASS
ERIANS	0	Erigeron annuus	1	FAC-	Nt	B-Forb	ANNUAL FLEABANE
ERICAN	0	Erigeron canadensis	1	FAC-	Nt	A-Forb	HORSEWEED
ERIVIL	0	ERIOCHLOA VILLOSA	5	UPL	Ad	A-Grass	CHINESE CUP GRASS
EUPALT	0	Eupatorium altissimum	3	(FACU)	Nt	P-Forb	TALL BONESET
EUPSEM	0	Eupatorium serotinum	-1	FAC+	Nt	P-Forb	LATE BONESET
EUPMAA	0	Euphorbia maculata	3	FACU	Nt	A-Forb	EYEBANE
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad	P-Grass	TALL FESCUE
FRAPEP	5	Fraxinus pennsylvanica	-3	FACW	Nt	Tree	RED ASH
GAIPUL	0	GAILLARDIA PULCHELLA	5	UPL	Ad	A-Forb	BLANKET FLOWER
GLEHED	0	GLECHOMA HEDERACEA	3	FACU	Ad	P-Forb	CREEPING CHARLIE
GLETRI	2	Gleditsia triacanthos	0	FAC	Nt	Tree	HONEY LOCUST
HELANN	0	HELIANTHUS ANNUUS	1	FAC-	Ad	A-Forb	GARDEN SUNFLOWER
HELMOL	9	Helianthus mollis	5	UPL	Nt	P-Forb	DOWNY SUNFLOWER
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt	P-Forb	FALSE SUNFLOWER
HESMAT	0	HESPERIS MATRONALIS	5	UPL	Ad	P-Forb	DAME'S ROCKET
HIBTRI	0	HIBISCUS TRIONUM	5	UPL	Ad	A-Forb	FLOWER-OF-AN-HOUR
HORJUB	0	HORDEUM JUBATUM	-1	FAC+	Ad	P-Grass	SQUIRREL-TAIL GRASS
JUNNOO	6	Juncus nodosus	-5	OBL	Nt	P-Forb	JOINT RUSH
JUNTEN	0	Juncus tenuis	2	[FACU+]	Nt	P-Forb	PATH RUSH
JUNVIC	2	Juniperus virginiana crebra	3	FACU	Nt	Tree	RED CEDAR
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad	B-Forb	PRICKLY LETTUCE
LEOCAR	0	LEONURUS CARDIACA	5	UPL	Ad	P-Forb	MOTHERWORT
LEPCAM	0	LEPIDIUM CAMPESTRE	5	UPL	Ad	B-Forb	FIELD CRESS
LEPVIR	0	Lepidium virginicum	4	FACU-	Nt	A-Forb	COMMON PEPPERCRESS
LINUSI	0	LINUM USITATISSIMUM	5	UPL	Ad	A-Forb	COMMON FLAX
LOTCOR	0	LOTUS CORNICULATUS	1	FAC-	Ad	P-Forb	BIRD'S FOOT TREFOIL
LYCALB	0	LYCHNIS ALBA	5	UPL	Ad	A-Forb	WHITE CAMPION
MELALB	0	MELILOTUS ALBA	3	FACU	Ad	B-Forb	WHITE SWEET CLOVER
MELLOF	0	MELILOTUS OFFICINALIS	3	FACU	Ad	B-Forb	YELLOW SWEET CLOVER
MONFIS	4	Monarda fistulosa	3	FACU	Nt	P-Forb	WILD BERGAMOT
MORALB	0	MORUS ALBA	0	FAC	Ad	Tree	WHITE MULBERRY
NEPCAT	0	NEPETA CATARIA	1	FAC-	Ad	P-Forb	CATNIP
OENBIE	0	Oenothera biennis	3	FACU	Nt	B-Forb	COMMON EVENING PRIMROSE
OXASTR	0	Oxalis stricta	5	UPL	Nt	P-Forb	COMMON WOOD SORREL
PANVIR	5	Panicum virgatum	-1	FAC+	Nt	P-Grass	SWITCH GRASS
PARQUI	2	Parthenocissus quinquefolia	1	FAC-	Nt	W-Vine	VIRGINIA CREEPER
PETPUR	9	Petalostemum purpureum	5	UPL	Nt	P-Forb	PURPLE PRAIRIE CLOVER
PHAARU	0	PHALARIS ARUNDINACEA	-4	FACW+	Ad	P-Grass	REED CANARY GRASS
PHLPRA	0	PHLEUM PRATENSE	3	FACU	Ad	P-Grass	TIMOTHY
PHRAUS	1	Phragmites australis	-4	FACW+	Nt	P-Grass	COMMON REED
PHYSUB	0	Physalis subglabrata	5	UPL	Nt	P-Forb	TALL GROUND CHERRY
PHYAME	1	Phytolacca americana	1	FAC-	Nt	P-Forb	POKEWEED
PLALAN	0	PLANTAGO LANCEOLATA	0	FAC	Ad	P-Forb	ENGLISH PLANTAIN
PLARUG	0	Plantago rugelii	0	FAC	Nt	A-Forb	RED-STALKED PLANTAIN
POAPRA	0	POA PRATENSIS	1	FAC-	Ad	P-Grass	KENTUCKY BLUE GRASS
POLAVI	0	POLYGONUM AVICULARE	1	FAC-	Ad	A-Forb	COMMON KNOTWEED
POLCON	0	POLYGONUM CONVOLVULUS	1	FAC-	Ad	A-Forb	BLACK BINDWEED
POLPER	0	POLYGONUM PERSICARIA	1	[FAC-]	Ad	A-Forb	LADY'S THUMB
POLGVI	2	Polygonum virginianum	0	FAC	Nt	P-Forb	WOODLAND KNOTWEED
POPDEL	2	Populus deltoides	-1	FAC+	Nt	Tree	EASTERN COTTONWOOD
PRUVLA	0	Prunella vulgaris lanceolata	3	[FACU]	Nt	P-Forb	SELF HEAL
PYCVIR	5	Pycnanthemum virginianum	-4	FACW+	Nt	P-Forb	COMMON MOUNTAIN MINT
RATPIN	4	Ratibida pinnata	5	UPL	Nt	P-Forb	YELLOW CONEFLOWER
RHACAT	0	RHAMNUS CATHARTICA	3	FACU	Ad	Shrub	COMMON BUCKTHORN
RHURAD	2	Rhus radicans	-1	FAC+	Nt	W-Vine	POISON IVY
RUBOCC	2	Rubus occidentalis	5	UPL	Nt	Shrub	BLACK RASPBERRY
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt	P-Forb	BLACK-EYED SUSAN
RUMCRI	0	RUMEX CRISPUS	-1	FAC+	Ad	P-Forb	CURLY DOCK
SALINT	1	Salix interior	-5	OBL	Nt	Shrub	SANDBAR WILLOW
SALNIG	4	Salix nigra	-5	OBL	Nt	Tree	BLACK WILLOW
SETFAB	0	SETARIA FABERI	2	FACU+	Ad	A-Grass	GIANT FOXTAIL
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad	A-Grass	YELLOW FOXTAIL
SILIND	5	Silphium integrifolium deamii	5	UPL	Nt	P-Forb	DEAM'S ROSIN WEED
SILLAC	5	Silphium laciniatum	5	UPL	Nt	P-Forb	COMPASS PLANT
SILTER	5	Silphium terebinthinaceum	3	FACU	Nt	P-Forb	PRAIRIE DOCK
SOLAME	0	Solanum americanum	4	FACU-	Nt	A-Forb	BLACK NIGHTSHADE
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad	P-Forb	HORSE NETTLE
SOLALT	1	Solidago altissima	3	FACU	Nt	P-Forb	TALL GOLDENROD
SOLCAN	1	Solidago canadensis	3	FACU	Nt	P-Forb	CANADA GOLDENROD
SOLNEM	4	Solidago nemoralis	5	UPL	Nt	P-Forb	OLD-FIELD GOLDENROD
SOLRIG	4	Solidago rigida	4	FACU-	Nt	P-Forb	STIFF GOLDENROD
SONULI	0	SONCHUS ULIGINOSUS	1	FAC-	Ad	P-Forb	COMMON SOW THISTLE
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt	P-Grass	INDIAN GRASS
SPOVAG	0	Sporobolus vaginiflorus	5	UPL	Nt	A-Grass	SHEATHED RUSH GRASS
TAROFF	0	TARAXACUM OFFICINALE	3	FACU	Ad	P-Forb	COMMON DANDELION

TRIPRA	0	TRIFOLIUM PRATENSE	5	UPL	Ad P-Forb	RED CLOVER
ULMAME	3	Ulmus americana	-2	FACW-	Nt Tree	AMERICAN ELM
ULMPUM	0	ULMUS PUMILA	5	UPL	Ad Tree	SIBERIAN ELM
VERBLT	0	VERBASCUM BLATTARIA	3	FACU	Ad B-Forb	MOTH MULLEIN
VERTHA	0	VERBASCUM THAPSUS	5	UPL	Ad B-Forb	COMMON MULLEIN
VERURU	5	Verbena urticifolia	5	UPL	Nt P-Forb	HAIRY WHITE VERVAIN
VITRIP	2	Vitis riparia	-2	FACW-	Nt W-Vine	RIVERBANK GRAPE
XANSTR	0	XANTHIUM STRUMARIUM	0	FAC	Ad A-Forb	COCKLEBUR

APPENDIX III

TRANSECT SAMPLING & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the transect data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. The results of each transect are presented in four sections as described below.

Section 1 is a summary of the quadrat data for the transect. The data listed for each quadrat includes the mean coefficient of conservatism (MC), floristic quality index (FQI), and mean wetness (MW). These values are calculated once for native species only, and a second time including adventive species (W/Ad). Also presented for each quadrat are the number of native species (NS), and number of total species (TS). Shown below each of these columns are their values averaged per quadrat (AVG), and standard deviation (STD). The columns to the far right are sequential averages of the wetness coefficients ([(x+n+y)/3]), data that can be useful in the evaluation of plants along a slope or topographical catena.

Section 2 is a summary these same values for the entire transect. First, there is a tabulation of the species in each conservatism category (0 to 10) and the percentage of species in three conservatism classes (0 to 3, 4 to 6, 7 to 10). The two columns below summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H= herbaceous). Next, there is a summary of the relative importance values (RIV) of each physiognomic group. These values are calculated by summing the frequency (FRQ) and the cover class (COV) of each group found in the transect then dividing by two.

Section 3 is a table that lists the relative importance values for each species found in the transect sampling, calculated in the same manner described above. Each scientific name is followed by its coefficient of conservatism and wetland indicator status.

Section 4 is the transect inventory arranged alphabetically to scientific name. This is followed by a list of the quadrats along the transect string that includes the cover class value determined for each species recorded in the quadrat.

Site: Blackwell Prairie - **Transect 1**
Locale: Warrenville, DuPage Co., IL
Date: September 24, 2004
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	4.0	0.8	4.0	1.8	1.0	2.0	1	5	2.5	3.0
2	4.3	2.6	7.5	5.8	4.0	4.0	3	5	2.7	3.2
3	6.0	3.0	8.5	6.0	3.0	3.5	2	4	2.7	3.2
4	4.3	2.2	7.5	5.3	1.0	2.0	3	6	2.2	2.7
5	4.0	4.0	6.9	6.9	2.7	2.7	3	3	2.5	2.6
6	2.0	1.3	4.0	3.3	3.8	3.2	4	6	3.8	3.2
7	8.0	2.7	8.0	4.6	5.0	3.7	1	3	3.9	3.5
8	3.6	2.6	8.0	6.8	3.0	3.6	5	7	4.3	3.6
9	8.0	1.6	8.0	3.6	5.0	3.6	1	5	3.9	3.6
10	4.0	3.0	6.9	6.0	3.7	3.5	3	4	4.3	3.5
AVG	4.8	2.4	6.9	5.0	3.2	3.2	2.6	4.8		
STD	1.9	0.9	1.6	1.7	1.4	0.7	1.3	1.3		

SECTION 2

C	NUMBER	
0	4	
1	0	
2	0	0 to 3
3	0	40.0%
4	2	
5	3	
6	0	4 to 7
7	0	50.0%
8	1	
9	0	8 to 10
10	0	10.0%

10	NATIVE SPECIES
23	TOTAL SPECIES
3.1	NATIVE MEAN C
1.3	W/Adventives
9.8	NATIVE FQI
6.5	W/Adventives
2.6	NATIVE MEAN W
2.7	W/Adventives

Native	10	43.5%	Adventive	13	56.5%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	4	17.4%	P-Forb	2	8.7%
B-Forb	0	0.0%	B-Forb	4	17.4%
A-Forb	1	4.3%	A-Forb	3	13.0%
P-Grass	5	21.7%	P-Grass	4	17.4%
A-Grass	0	0.0%	A-Grass	0	0.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Nt P-Grass	16	30	33.3	38.0	35.7
Ad P-Grass	9	18	18.8	22.8	20.8
Nt P-Forb	7	9	14.6	11.4	13.0
Ad B-Forb	6	8	12.5	10.1	11.3
Ad A-Forb	4	6	8.3	7.6	8.0
Nt A-Forb	3	5	6.3	6.3	6.3
Ad P-Forb	3	3	6.3	3.8	5.0

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Bouteloua curtipendula	8	UPL	8	18	16.3	22.2	19.3
DACTYLIS GLOMERATA	0	FACU	4	9	8.2	11.1	9.6
Elymus canadensis	4	FAC-	4	6	8.2	7.4	7.8
Ambrosia artemisiifolia elatior	0	FACU	3	5	6.1	6.2	6.1
BROMUS INERMIS	0	UPL	3	5	6.1	6.2	6.1
MELILOTUS ALBA	0	FACU	3	5	6.1	6.2	6.1
Aster pilosus	0	FACU+	3	4	6.1	4.9	5.5
Andropogon scoparius	5	FACU-	2	3	4.1	3.7	3.9
Monarda fistulosa	4	FACU	2	3	4.1	3.7	3.9
CIRSIUM ARVENSE	0	UPL	2	2	4.1	2.5	3.3
HIBISCUS TRIONUM	0	UPL	2	2	4.1	2.5	3.3
LINUM USITATISSIMUM	0	UPL	1	3	2.0	3.7	2.9
AGROPYRON REPENS	0	FACU	1	2	2.0	2.5	2.3
Panicum virgatum	5	FAC+	1	2	2.0	2.5	2.3
POA PRATENSIS	0	FAC-	1	2	2.0	2.5	2.3
SOIL	0		1	2	2.0	2.5	2.3
ABUTILON THEOPHRASTI	0	FACU-	1	1	2.0	1.2	1.6
ALLIARIA PETIOLATA	0	FAC	1	1	2.0	1.2	1.6
Andropogon gerardii	5	FAC-	1	1	2.0	1.2	1.6
BARBAREA VULGARIS	0	FAC	1	1	2.0	1.2	1.6
LACTUCA SERRIOLA	0	FAC	1	1	2.0	1.2	1.6
LOTUS CORNICULATUS	0	FAC-	1	1	2.0	1.2	1.6
Physalis subglabrata	0	UPL	1	1	2.0	1.2	1.6
Prunella vulgaris lanceolata	0	[FACU]	1	1	2.0	1.2	1.6
			49	81			

SECTION 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
ALLPET	0	ALLIARIA PETIOLATA	0	FAC	Ad B-Forb	GARLIC MUSTARD
AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-Forb	COMMON RAGWEED
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
BARVUL	0	BARBAREA VULGARIS	0	FAC	Ad B-Forb	YELLOW ROCKET
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
DACGLO	0	DACTYLIS GLOMERATA	3	FACU	Ad P-Grass	ORCHARD GRASS
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE
HIBTRI	0	HIBISCUS TRIONUM	5	UPL	Ad A-Forb	FLOWER-OF-AN-HOUR
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad B-Forb	PRICKLY LETTUCE
LINUSI	0	LINUM USITATISSIMUM	5	UPL	Ad A-Forb	COMMON FLAX
LOTCOR	0	LOTUS CORNICULATUS	1	FAC-	Ad P-Forb	BIRD'S FOOT TREFOIL
MELALB	0	MELILOTUS ALBA	3	FACU	Ad B-Forb	WHITE SWEET CLOVER
MONFIS	4	Monarda fistulosa	3	FACU	Nt P-Forb	WILD BERGAMOT
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PHYSUB	0	Physalis subglabrata	5	UPL	Nt P-Forb	TALL GROUND CHERRY
POAPRA	0	POA PRATENSIS	1	FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
PRUVLA	0	Prunella vulgaris lanceolata	3	[FACU]	Nt P-Forb	SELF HEAL
SOIL	0	SOIL	0	nil	nil	SOIL

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
ALLPET	1
BROINE	3
DACGLO	3
ELYCAN	1
POAPRA	2

>

QUAD	2
ACRONYM	COVER
ANDSCO	2
BOUCUR	2
DACGLO	3
HIBTRI	1
PRUVLA	1

>

QUAD	3
ACRONYM	COVER
BOUCUR	2
CIRARV	1
DACGLO	2
ELYCAN	2

>

QUAD	4
ACRONYM	COVER
ABUTHE	1
BROINE	1
ELYCAN	1
LACSER	1
MONFIS	2
PANVIR	2

>

QUAD	5
ACRONYM	COVER
ASTPIL	2
BOUCUR	1
ELYCAN	2
SOIL	2

>

QUAD	6
ACRONYM	COVER
AGRREP	2
AMBARE	2
ASTPIL	1
BOUCUR	2
LOTCOR	1
PHYSUB	1

>

QUAD	7
ACRONYM	COVER
BOUCUR	4
DACGLO	1
MELALB	1

>

QUAD	8
ACRONYM	COVER
AMBARE	2
ANDGER	1
ANDSCO	1
ASTPIL	1
BOUCUR	3
BROINE	1
LINUSI	3

>

QUAD	9
ACRONYM	COVER
BARVUL	1
BOUCUR	2
CIRARV	1
HIBTRI	1
MELALB	2

>

QUAD	10
ACRONYM	COVER
AMBARE	1
BOUCUR	2
MELALB	2
MONFIS	1

Site: Blackwell Prairie - **Transect 2**
Locale: Warrenville, DuPage Co., IL
Date: September 24, 2004
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	3.5	2.8	7.0	6.3	2.8	2.4	4	5	2.9	2.8
2	2.5	1.1	5.0	3.3	3.0	3.2	4	9	2.2	3.1
3	0.0	0.0	0.0	0.0	1.0	3.8	1	4	2.2	3.1
4	0.5	0.2	0.7	0.4	2.5	2.2	2	5	0.7	2.3
5	3.3	1.7	5.8	4.1	-1.3	0.8	3	6	1.2	1.8
6	0.5	0.1	0.7	0.3	2.5	2.3	2	9	0.4	1.5
7	0.0	0.0	0.0	0.0	0.0	1.4	0	7	1.8	2.0
8	2.2	1.1	4.9	3.5	3.0	2.1	5	10	1.3	1.8
9	0.0	0.0	0.0	0.0	1.0	1.8	2	6	1.7	2.1
10	0.0	0.0	0.0	0.0	1.0	2.4	1	7	1.0	2.1
AVG	1.3	0.7	2.4	1.8	1.5	2.3	2.4	6.8		
STD	1.5	1.0	2.9	2.3	1.5	0.8	1.6	2.0		

SECTION 2

C	NUMBER	
0	5	
1	3	
2	0	0 to 3
3	1	52.9%
4	2	
5	5	
6	0	4 to 7
7	0	41.2%
8	1	
9	0	8 to 10
10	0	5.9%

17	NATIVE SPECIES
36	TOTAL SPECIES
2.8	NATIVE MEAN C
1.3	W/Adventives
11.4	NATIVE FQI
7.8	W/Adventives
2.2	NATIVE MEAN W
2.2	W/Adventives

Native	17	47.2%	Adventive	19	52.8%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	1	2.8%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	6	16.7%	P-Forb	8	22.2%
B-Forb	1	2.8%	B-Forb	2	5.6%
A-Forb	3	8.3%	A-Forb	5	13.9%
P-Grass	7	19.4%	P-Grass	2	5.6%
A-Grass	0	0.0%	A-Grass	1	2.8%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad P-Forb	17	23	25.0	21.7	23.3
Ad B-Forb	10	18	14.7	17.0	15.8
Nt P-Forb	9	15	13.2	14.2	13.7
Ad P-Grass	7	14	10.3	13.2	11.8
Nt P-Grass	7	12	10.3	11.3	10.8
Ad A-Forb	8	10	11.8	9.4	10.6
Nt A-Forb	5	8	7.4	7.5	7.5
Nt B-Forb	3	4	4.4	3.8	4.1
Ad Shrub	1	1	1.5	0.9	1.2
Ad A-Grass	1	1	1.5	0.9	1.2

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
CORONILLA VARIA	0	UPL	9	14	13.2	13.2	13.2
LACTUCA SERRIOLA	0	FAC	5	11	7.4	10.4	8.9
BROMUS INERMIS	0	UPL	4	9	5.9	8.5	7.2
ALLIARIA PETIOLATA	0	FAC	5	7	7.4	6.6	7.0
Aster pilosus	0	FACU+	4	8	5.9	7.5	6.7
AGROPYRON REPENS	0	FACU	3	5	4.4	4.7	4.6
Erigeron canadensis	0	FAC-	3	5	4.4	4.7	4.6
ATRIPLEX PATULA	0	FACW-	3	4	4.4	3.8	4.1
Erigeron annuus	0	FAC-	3	4	4.4	3.8	4.1
BRASSICA NIGRA	0	UPL	2	3	2.9	2.8	2.9
NEPETA CATARIA	0	FAC-	2	2	2.9	1.9	2.4
Panicum virgatum	5	FAC+	1	3	1.5	2.8	2.2
Ambrosia artemisiifolia elatior	0	FACU	1	2	1.5	1.9	1.7
Andropogon gerardii	5	FAC-	1	2	1.5	1.9	1.7
Andropogon scoparius	5	FACU-	1	2	1.5	1.9	1.7
Bouteloua curtipendula	8	UPL	1	2	1.5	1.9	1.7
LOTUS CORNICULATUS	0	FAC-	1	2	1.5	1.9	1.7
Pycnanthemum virginianum	5	FACW+	1	2	1.5	1.9	1.7
Solidago altissima	1	FACU	1	2	1.5	1.9	1.7
ABUTILON THEOPHRASTI	0	FACU-	1	1	1.5	0.9	1.2
AMARANTHUS RETROFLEXUS	0	FACU+	1	1	1.5	0.9	1.2
CHENOPODIUM ALBUM	0	FAC-	1	1	1.5	0.9	1.2
CIRSIUM ARVENSE	0	UPL	1	1	1.5	0.9	1.2
Elymus canadensis	4	FAC-	1	1	1.5	0.9	1.2
Eragrostis spectabilis	3	UPL	1	1	1.5	0.9	1.2
Lepidium virginicum	0	FACU-	1	1	1.5	0.9	1.2
Ratibida pinnata	4	UPL	1	1	1.5	0.9	1.2
RHAMNUS CATHARTICA	0	FACU	1	1	1.5	0.9	1.2
Rudbeckia hirta	1	FACU	1	1	1.5	0.9	1.2
RUMEX CRISPUS	0	FAC+	1	1	1.5	0.9	1.2
SETARIA VIRIDIS	0	[FAC-]	1	1	1.5	0.9	1.2
SOLANUM CAROLINENSE	0	FACU-	1	1	1.5	0.9	1.2
Solidago canadensis	1	FACU	1	1	1.5	0.9	1.2
SONCHUS ULIGINOSUS	0	FAC-	1	1	1.5	0.9	1.2
Sorghastrum nutans	5	FACU+	1	1	1.5	0.9	1.2
TARAXACUM OFFICINALE	0	FACU	1	1	1.5	0.9	1.2
			68	106			

SECTION 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
ALLPET	0	ALLIARIA PETIOLATA	0	FAC	Ad B-Forb	GARLIC MUSTARD
AMARET	0	AMARANTHUS RETROFLEXUS	2	FACU+	Ad A-Forb	ROUGH AMARANTH
AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-Forb	COMMON RAGWEED

ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
ATRPAT	0	ATRIPLEX PATULA	-2	FACW-	Ad A-Forb	COMMON ORACH
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BRANIG	0	BRASSICA NIGRA	5	UPL	Ad A-Forb	BLACK MUSTARD
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
CHEALB	0	CHENOPODIUM ALBUM	1	FAC-	Ad A-Forb	LAMB'S QUARTERS
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CORVAR	0	CORONILLA VARIA	5	UPL	Ad P-Forb	CROWN VETCH
ELYCAN	4	*Elymus canadensis*	1	FAC-	Nt P-Grass	CANADA WILD RYE
ERASPE	3	Eragrostis spectabilis	5	UPL	Nt P-Grass	PURPLE LOVE GRASS
ERIANS	0	Erigeron annuus	1	FAC-	Nt B-Forb	ANNUAL FLEABANE
ERICAN	0	Erigeron canadensis	1	FAC-	Nt A-Forb	HORSEWEED
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad B-Forb	PRICKLY LETTUCE
LEPVIR	0	Lepidium virginicum	4	FACU-	Nt A-Forb	COMMON PEPPERCRESS
LOTCOR	0	LOTUS CORNICULATUS	1	FAC-	Ad P-Forb	BIRD'S FOOT TREFOIL
NEPCAT	0	*NEPETA CATARIA*	1	FAC-	Ad P-Forb	CATNIP
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PYCVIR	5	Pycnanthemum virginianum	-4	FACW+	Nt P-Forb	COMMON MOUNTAIN MINT
RATPIN	4	Ratibida pinnata	5	UPL	Nt P-Forb	YELLOW CONEFLOWER
RHACAT	0	RHAMNUS CATHARTICA	3	FACU	Ad Shrub	COMMON BUCKTHORN
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt P-Forb	BLACK-EYED SUSAN
RUMCRI	0	RUMEX CRISPUS	-1	FAC+	Ad P-Forb	CURLY DOCK
SETVIV	0	SETARIA VIRIDIS	1	[FAC-]	Ad A-Grass	GREEN FOXTAIL
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad P-Forb	HORSE NETTLE
SOLALT	1	Solidago altissima	3	FACU	Nt P-Forb	TALL GOLDENROD
SOLCAN	1	Solidago canadensis	3	FACU	Nt P-Forb	CANADA GOLDENROD
SONULI	0	SONCHUS ULIGINOSUS	1	FAC-	Ad P-Forb	COMMON SOW THISTLE
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt P-Grass	INDIAN GRASS
TAROFF	0	TARAXACUM OFFICINALE	3	FACU	Ad P-Forb	COMMON DANDELION

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
ANDGER	2
ASTPIL	2
BOUCUR	2
LOTCOR	2
SOLCAN	1

>

QUAD	2
ACRONYM	COVER
AGRREP	3
ANDSCO	2
ASTPIL	1
BROINE	1
CORVAR	2
LEPVIR	1
RHACAT	1
SETVIV	1
SORNUT	1

>

QUAD	3
ACRONYM	COVER
BROINE	4
CORVAR	2
ERIANS	1
SOLCAR	1

>

QUAD	4
ACRONYM	COVER
ASTPIL	4
CORVAR	2
LACSER	1
NEPCAT	1
SOLALT	2

>

QUAD	5
ACRONYM	COVER
AGRREP	1
CORVAR	2
ERIANS	2
NEPCAT	1
PANVIR	3
PYCVIR	2

>

QUAD	6
ACRONYM	COVER
ALLPET	1
ASTPIL	1
ATRPAT	1
BRANIG	2
BROINE	2
CORVAR	1
LACSER	2
RUDHIR	1
TAROFF	1

>

QUAD	7
ACRONYM	COVER
AGRREP	1
ALLPET	1
ATRPAT	2
BRANIG	1
CORVAR	1
LACSER	2
RUMCRI	1

>

QUAD	8
ACRONYM	COVER
ALLPET	2
AMARET	1
AMBARE	2
ATRPAT	1
CORVAR	1
ELYCAN	1
ERASPE	1
ERICAN	1
RATPIN	1
SONULI	1

>

QUAD	9
ACRONYM	COVER
ABUTHE	1
ALLPET	2
CORVAR	2
ERIANS	1
ERICAN	3
LACSER	3

>

QUAD	10
ACRONYM	COVER
ALLPET	1
BROINE	2
CHEALB	1
CIRARV	1
CORVAR	1
ERICAN	1
LACSER	3

Site: Blackwell Prairie - **Transect 3**
Locale: Warrenville - DuPage Co., IL
Date: September 24, 2004
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	2.6	1.6	5.8	4.6	1.6	2.1	5	8	1.8	2.7
2	1.7	0.8	2.9	2.0	2.0	3.3	3	6	2.0	2.7
3	3.1	2.8	8.3	7.8	2.4	2.8	7	8	1.5	2.7
4	1.3	0.8	2.3	1.8	0.0	2.0	3	5	1.5	2.2
5	1.3	1.0	2.5	2.2	2.0	1.8	4	5	2.0	2.5
6	2.5	1.0	3.5	2.2	4.0	3.8	2	5	2.0	2.9
7	0.0	0.0	0.0	0.0	0.0	3.0	0	3	3.0	3.3
8	9.0	3.0	9.0	5.2	5.0	3.0	1	3	2.7	3.0
9	6.0	2.4	8.5	5.4	3.0	3.0	2	5	3.8	3.1
10	4.0	1.6	5.7	3.6	3.5	3.2	2	5	3.2	3.1
AVG	3.1	1.5	4.9	3.5	2.4	2.8	2.9	5.3		
STD	2.6	1.0	3.1	2.3	1.6	0.6	2.0	1.7		

SECTION 2

C	NUMBER	
0	6	
1	1	
2	0	0 to 3
3	0	46.7%
4	3	
5	3	
6	0	4 to 7
7	0	40.0%
8	1	
9	1	8 to 10
10	0	13.3%

15	NATIVE SPECIES
24	TOTAL SPECIES
3.0	NATIVE MEAN C
1.9	W/Adventives
11.6	NATIVE FQI
9.2	W/Adventives
2.1	NATIVE MEAN W
2.8	W/Adventives

Native	15	62.5%	Adventive	9	37.5%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	6	25.0%	P-Forb	3	12.5%
B-Forb	2	8.3%	B-Forb	1	4.2%
A-Forb	3	12.5%	A-Forb	1	4.2%
P-Grass	4	16.7%	P-Grass	2	8.3%
A-Grass	0	0.0%	A-Grass	2	8.3%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad P-Grass	11	36	20.8	36.0	28.4
Nt P-Grass	10	18	18.9	18.0	18.4
Nt P-Forb	9	16	17.0	16.0	16.5
Nt A-Forb	8	10	15.1	10.0	12.5
Ad A-Grass	5	9	9.4	9.0	9.2
Ad P-Forb	4	4	7.5	4.0	5.8
Nt B-Forb	2	3	3.8	3.0	3.4
Ad B-Forb	2	2	3.8	2.0	2.9
Ad A-Forb	2	2	3.8	2.0	2.9

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
POA PRATENSIS	0	FAC-	6	22	11.3	22.0	16.7
AGROPYRON REPENS	0	FACU	5	14	9.4	14.0	11.7
BROMUS TECTORUM	0	UPL	4	8	7.5	8.0	7.8
Bouteloua curtipendula	8	UPL	4	7	7.5	7.0	7.3
Ambrosia artemisiifolia elatior	0	FACU	5	5	9.4	5.0	7.2
Aster pilosus	0	FACU+	3	6	5.7	6.0	5.8
Elymus canadensis	4	FAC-	3	6	5.7	6.0	5.8
Ambrosia trifida	0	FAC+	2	4	3.8	4.0	3.9
Panicum virgatum	5	FAC+	2	4	3.8	4.0	3.9
Solidago canadensis	1	FACU	2	3	3.8	3.0	3.4
ABUTILON THEOPHRASTI	0	FACU-	2	2	3.8	2.0	2.9
CIRSIUM ARVENSE	0	UPL	2	2	3.8	2.0	2.9
LEPIDIUM CAMPESTRE	0	UPL	2	2	3.8	2.0	2.9
Aster novae-angliae	4	FACW	1	3	1.9	3.0	2.4
Helianthus mollis	9	UPL	1	2	1.9	2.0	1.9
Oenothera biennis	0	FACU	1	2	1.9	2.0	1.9
Andropogon scoparius	5	FACU-	1	1	1.9	1.0	1.4
CONVOLVULUS ARVENSIS	0	UPL	1	1	1.9	1.0	1.4
CORONILLA VARIA	0	UPL	1	1	1.9	1.0	1.4
Erigeron annuus	0	FAC-	1	1	1.9	1.0	1.4
Erigeron canadensis	0	FAC-	1	1	1.9	1.0	1.4
Monarda fistulosa	4	FACU	1	1	1.9	1.0	1.4
SETARIA FABERI	0	FACU+	1	1	1.9	1.0	1.4
Silphium integrifolium deamii	5	UPL	1	1	1.9	1.0	1.4
			53	100			

SECTION 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-Forb	COMMON RAGWEED
AMBTRI	0	Ambrosia trifida	-1	FAC+	Nt A-Forb	GIANT RAGWEED
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASTNOV	4	Aster novae-angliae	-3	FACW	Nt P-Forb	NEW ENGLAND ASTER
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BROTEC	0	BROMUS TECTORUM	5	UPL	Ad A-Grass	DOWNY BROME
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
CORVAR	0	CORONILLA VARIA	5	UPL	Ad P-Forb	CROWN VETCH
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE
ERIANS	0	Erigeron annuus	1	FAC-	Nt B-Forb	ANNUAL FLEABANE
ERICAN	0	Erigeron canadensis	1	FAC-	Nt A-Forb	HORSEWEED
HELMOL	9	Helianthus mollis	5	UPL	Nt P-Forb	DOWNY SUNFLOWER
LEPCAM	0	LEPIDIUM CAMPESTRE	5	UPL	Ad B-Forb	FIELD CRESS
MONFIS	4	Monarda fistulosa	3	FACU	Nt P-Forb	WILD BERGAMOT
OENBIE	0	Oenothera biennis	3	FACU	Nt B-Forb	COMMON EVENING PRIMROSE
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
POAPRA	0	POA PRATENSIS	1	FAC-	Ad P-Grass	KENTUCKY BLUE GRASS

SETFAB	0 SETARIA FABERI	2 FACU+	Ad A-Grass	GIANT FOXTAIL
SILIND	5 Silphium integrifolium deamii	5 UPL	Nt P-Forb	DEAM'S ROSIN WEED
SOLCAN	1 Solidago canadensis	3 FACU	Nt P-Forb	CANADA GOLDENROD

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
ABUTHE	1
AGRREP	1
AMBARE	1
AMBTRI	2
ASTPIL	2
BOUCUR	2
PANVIR	2
SETFAB	1

>

QUAD	2
ACRONYM	COVER
ABUTHE	1
AMBARE	1
AMBTRI	2
ANDSCO	1
BROTEC	3
LEPCAM	1

>

QUAD	3
ACRONYM	COVER
AMBARE	1
BOUCUR	2
BROTEC	2
ELYCAN	2
MONFIS	1
OENBIE	2
PANVIR	2
SOLCAN	2

>

QUAD	4
ACRONYM	COVER
ASTNOV	3
ASTPIL	3
BROTEC	2
ERICAN	1
LEPCAM	1

>

QUAD	5
ACRONYM	COVER
AMBARE	1
ELYCAN	2
ERIANS	1
POAPRA	3
SOLCAN	1

>

QUAD	6
ACRONYM	COVER
AMBARE	1
BROTEC	1
CORVAR	1
POAPRA	4
SILIND	1

>

QUAD	7
ACRONYM	COVER
AGRREP	3
CIRARV	1
POAPRA	4

>

QUAD	8
ACRONYM	COVER
AGRREP	5
HELMOL	2
POAPRA	5

>

QUAD	9
ACRONYM	COVER
AGRREP	3
BOUCUR	1
CIRARV	1
ELYCAN	2
POAPRA	2

>

QUAD	10
ACRONYM	COVER
AGRREP	2
ASTPIL	1
BOUCUR	2
CONARV	1
POAPRA	4

Site: Blackwell Prairie - **Transect 4**
Locale: Warrenville - DuPage Co., IL
Date: September 24, 2004
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	6.0	3.6	10.4	8.0	2.7	3.0	3	5	2.7	3.0
2	4.3	2.1	8.5	6.0	2.8	3.0	4	8	2.5	2.0
3	6.5	4.3	9.2	7.5	2.0	0.0	2	3	2.5	1.9
4	3.4	2.8	7.6	6.9	2.8	2.8	5	6	2.7	2.1
5	3.4	3.0	9.1	8.5	3.3	3.5	7	8	3.1	3.2
6	4.5	3.6	9.0	8.0	3.3	3.2	4	5	3.0	3.1
7	3.4	2.8	7.6	6.9	2.4	2.5	5	6	2.7	2.8
8	4.7	4.7	12.5	12.5	2.6	2.6	7	7	3.0	3.0
9	6.0	6.0	12.0	12.0	4.0	4.0	4	4	3.1	3.1
10	4.8	4.8	10.7	10.7	2.6	2.6	5	5	3.3	3.3
AVG	4.7	3.8	9.7	8.7	2.8	2.7	4.6	5.7		
STD	1.1	1.2	1.7	2.2	0.6	1.1	1.6	1.6		

SECTION 2

C	NUMBER	
0	3	
1	1	
2	0	0 to 3
3	1	31.3%
4	2	
5	7	
6	0	4 to 7
7	0	56.3%
8	1	
9	1	8 to 10
10	0	12.5%

16	NATIVE SPECIES
23	TOTAL SPECIES
4.0	NATIVE MEAN C
2.8	W/Adventives
16.0	NATIVE FQI
13.3	W/Adventives
3.2	NATIVE MEAN W
2.8	W/Adventives

Native	16	69.6%	Adventive	7	30.4%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	9	39.1%	P-Forb	1	4.3%
B-Forb	1	4.3%	B-Forb	0	0.0%
A-Forb	0	0.0%	A-Forb	0	0.0%
P-Grass	6	26.1%	P-Grass	3	13.0%
A-Grass	0	0.0%	A-Grass	3	13.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Nt P-Grass	30	59	52.6	59.6	56.1
Nt P-Forb	15	24	26.3	24.2	25.3
Ad P-Grass	5	9	8.8	9.1	8.9
Ad P-Forb	3	3	5.3	3.0	4.1
Ad A-Grass	3	3	5.3	3.0	4.1
Nt B-Forb	1	1	1.8	1.0	1.4

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Andropogon scoparius	5	FACU-	8	20	14.0	20.2	17.1
Sorghastrum nutans	5	FACU+	6	12	10.5	12.1	11.3
Bouteloua curtipendula	8	UPL	6	10	10.5	10.1	10.3
Panicum virgatum	5	FAC+	5	10	8.8	10.1	9.4
Aster pilosus	0	FACU+	4	8	7.0	8.1	7.5
Elymus canadensis	4	FAC-	4	5	7.0	5.1	6.0
AGROPYRON REPENS	0	FACU	3	6	5.3	6.1	5.7
CIRSIUM ARVENSE	0	UPL	3	3	5.3	3.0	4.1
Heliopsis helianthoides	5	UPL	2	3	3.5	3.0	3.3
Rudbeckia hirta	1	FACU	2	3	3.5	3.0	3.3
Echinacea purpurea	3	UPL	2	2	3.5	2.0	2.8
Andropogon gerardii	5	FAC-	1	2	1.8	2.0	1.9
Aster ericoides	5	FACU-	1	2	1.8	2.0	1.9
PHALARIS ARUNDINACEA	0	FACW+	1	2	1.8	2.0	1.9
Silphium laciniatum	5	UPL	1	2	1.8	2.0	1.9
Solidago rigida	4	FACU-	1	2	1.8	2.0	1.9
DACTYLIS GLOMERATA	0	FACU	1	1	1.8	1.0	1.4
Erigeron annuus	0	FAC-	1	1	1.8	1.0	1.4
ERIOCHLOA VILLOSA	0	UPL	1	1	1.8	1.0	1.4
Petalostemum purpureum	9	UPL	1	1	1.8	1.0	1.4
Physalis subglabrata	0	UPL	1	1	1.8	1.0	1.4
SETARIA FABERI	0	FACU+	1	1	1.8	1.0	1.4
SETARIA GLAUCA	0	FAC	1	1	1.8	1.0	1.4
			57	99			

SECTION 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASTERI	5	Aster ericoides	4	FACU-	Nt P-Forb	HEATH ASTER
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
DACGLO	0	DACTYLIS GLOMERATA	3	FACU	Ad P-Grass	ORCHARD GRASS
ECHPUR	3	Echinacea purpurea	5	UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE
ERIANS	0	Erigeron annuus	1	FAC-	Nt B-Forb	ANNUAL FLEABANE
ERIVIL	0	ERIOCHLOA VILLOSA	5	UPL	Ad A-Grass	CHINESE CUP GRASS
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt P-Forb	FALSE SUNFLOWER
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PETPUR	9	Petalostemum purpureum	5	UPL	Nt P-Forb	PURPLE PRAIRIE CLOVER
PHAARU	0	PHALARIS ARUNDINACEA	-4	FACW+	Ad P-Grass	REED CANARY GRASS
PHYSUB	0	Physalis subglabrata	5	UPL	Nt P-Forb	TALL GROUND CHERRY
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt P-Forb	BLACK-EYED SUSAN
SETFAB	0	SETARIA FABERI	2	FACU+	Ad A-Grass	GIANT FOXTAIL
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad A-Grass	YELLOW FOXTAIL
SILLAC	5	Silphium laciniatum	5	UPL	Nt P-Forb	COMPASS PLANT

SOLRIG	4 Solidago rigida	4	FACU-	Nt P-Forb	STIFF GOLDENROD
SORNUT	5 Sorghastrum nutans	2	FACU+	Nt P-Grass	INDIAN GRASS

TRANSECT STRING	
>	
QUAD	1
ACRONYM	COVER
ANDSCO	2
BOUCUR	2
CIRARV	1
PANVIR	3
SETFAB	1
>	
QUAD	2
ACRONYM	COVER
ANDSCO	3
BOUCUR	1
CIRARV	1
DACGLO	1
ELYCAN	1
ERIANS	1
ERIVIL	1
SETGLA	1
>	
QUAD	3
ACRONYM	COVER
BOUCUR	2
PANVIR	2
PHAARU	2
>	
QUAD	4
ACRONYM	COVER
AGRREP	2
ANDSCO	2
ASTPIL	3
ECHPUR	1
ELYCAN	2
SORNUT	1
>	
QUAD	5
ACRONYM	COVER
ANDSCO	2
ASTERI	2
ASTPIL	2
CIRARV	1
ELYCAN	1
HELHEL	1
RUDHIR	1
SOLRIG	2
>	
QUAD	6
ACRONYM	COVER
AGRREP	2
ANDSCO	3
ASTPIL	2
BOUCUR	2
SORNUT	2
>	
QUAD	7
ACRONYM	COVER
AGRREP	2
ECHPUR	1
ELYCAN	1
PANVIR	3
PHYSUB	1
SORNUT	2
>	
QUAD	8
ACRONYM	COVER
ANDGER	2
ANDSCO	2
ASTPIL	1
BOUCUR	2
PANVIR	1
SILLAC	2
SORNUT	2
>	
QUAD	9
ACRONYM	COVER
ANDSCO	4
HELHEL	2
PETPUR	1
SORNUT	3
>	
QUAD	10
ACRONYM	COVER
ANDSCO	2
BOUCUR	1
PANVIR	1
RUDHIR	2
SORNUT	2

APPENDIX IV

SEEDED SPECIES RECRUITMENT

An alphabetical list of the 37 native species that were seeded as part of the prairie landscape installation in May and June of 2001 are presented in the table on the following page. Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the 2004-monitoring event it is indicated with a "Y", and if not it is indicated with a "N". The columns to the right summarize the RIV of each species if recorded during the transect sampling; these same data from 2001, 2002, and 2003 are shown for comparison.

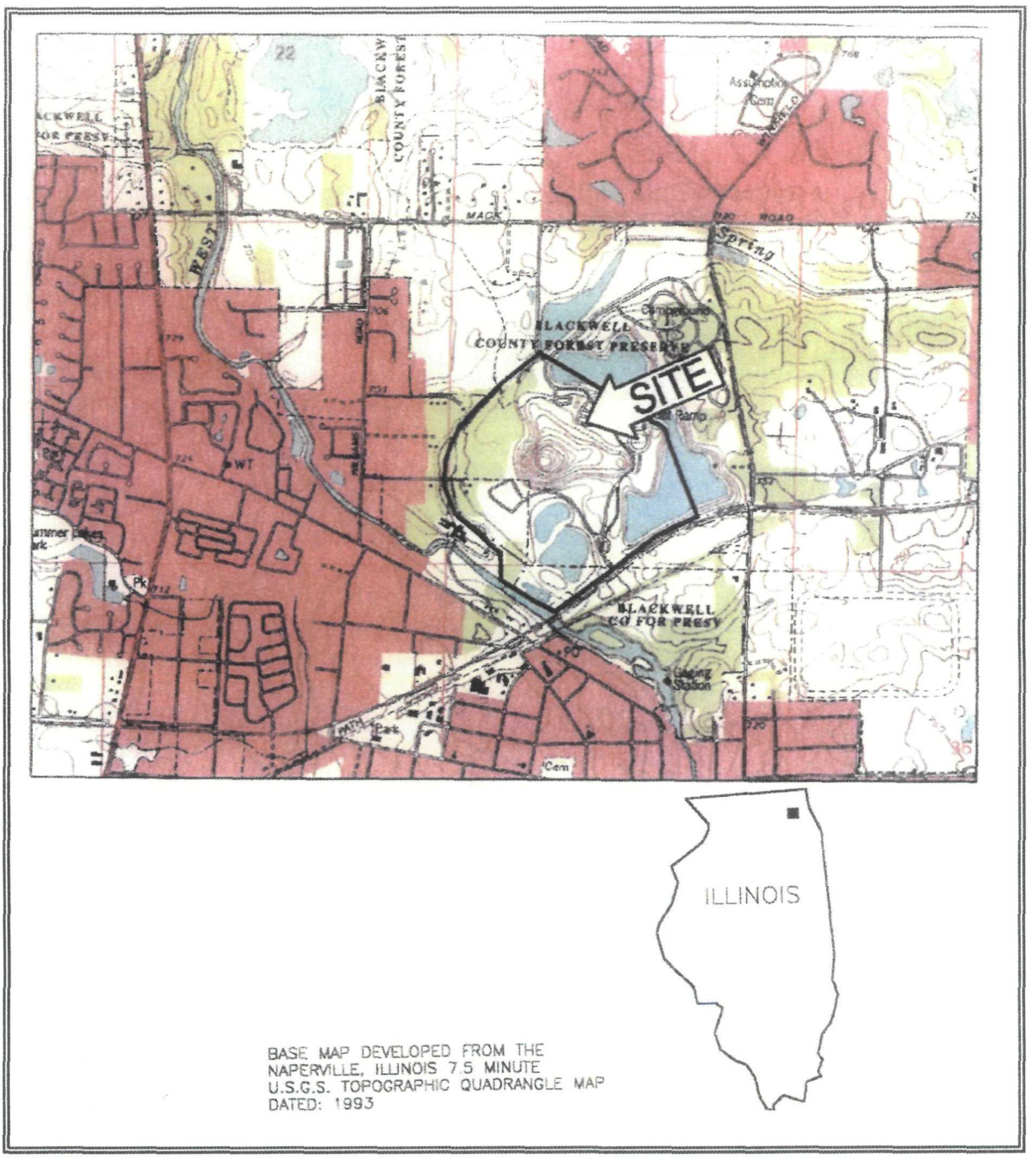
Twenty six (26) of these 37 seeded species were recorded from the site during the monitoring event in September of 2004. See the report for more information.

Seeded Species (C Value)	Relative Importance Values															
	Transect 1				Transect 2				Transect 3				Transect 4			
	'01	'02	'03	'04	'01	'02	'03	'04	'01	'02	'03	'04	'01	'02	'03	'04
Andropogon gerardii (5)Y	-	-	3.1	1.6	-	-	-	1.7	-	1.9	1.8	-	-	3.0	7.2	1.9
Andropogon scoparius (5)Y	-	1.6	1.3	3.9	-	-	-	1.7	-	-	-	1.4	-	1.5	5.6	17.1
Aquilegia canadensis (6)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aster azureus (8)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aster ericoides (5)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	1.9
Aster laevis (9)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aster novae-angliae (4)Y	-	-	-	-	-	-	-	-	-	-	-	2.4	-	-	2.0	-
Astragalus canadensis (10)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baptisia leucantha (8)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bouteloua curtipendula (8)Y	1.5	14.8	11.7	19.3	2.7	9.4	4.8	1.7	-	6.8	12.4	7.3	-	14.4	7.3	10.3
Coreopsis palmata (6)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coreopsis tripteris (5)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Desmodium canadense (4)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Echinacea purpurea (3)Y	1.5	-	1.3	-	2.1	-	-	-	-	-	-	-	-	-	3.0	2.8
Elymus canadensis (4)Y	-	-	-	7.8	-	-	-	1.2	-	1.5	4.5	5.8	-	1.1	3.8	6.0
Eryngium yuccifolium (9)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Helianthus mollis (9)Y	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	1.0	-
Helianthus rigidus (8)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heliopsis helianthoides (5)Y	-	1.6	1.8	-	1.6	-	-	-	-	-	-	-	-	2.2	4.4	3.3
Lespedeza capitata (4)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liatris spicata (6)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monarda fistulosa (4)Y	-	-	-	3.9	1.6	-	1.8	-	-	-	1.4	1.4	1.1	-	1.0	-
Panicum virgatum (5)Y	-	-	3.1	2.3	-	5.6	5.3	2.2	-	5.6	9.6	3.9	-	5.2	3.4	9.4
Parthenium integrifolium (8)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Penstemon digitalis (4)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petalostemum purpureum (9)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4
Physostegia virginiana (6)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pycnanthemum virginianum (5)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ratibida pinnata (4)Y	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-
Rudbeckia hirta (1)Y	3.5	2.0	-	-	2.1	-	-	1.2	-	-	1.4	-	1.1	4.4	5.8	3.3
Silphium integrifolium deamii (5)Y	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-
Silphium laciniatum (5)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.9
Silphium terebinthinaceum (5)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solidago graminifolia (4)N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solidago nemoralis (4)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solidago rigida (4)Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9
Sorghastrum nutans (5)Y	-	-	-	-	1.6	5.0	2.6	1.2	-	-	1.8	-	-	1.8	2.4	11.3

EXHIBITS

BLACKWELL LANDFILL PRAIRIE RESTORATION

Warrenville - DuPage County, Illinois



BASE MAP DEVELOPED FROM THE
NAPERVILLE, ILLINOIS 7.5 MINUTE
U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
DATED: 1993

Project Number:
04005.00

Date:
December 2004

Scale:
Not to Scale

EXHIBIT A
PROJECT LOCATION MAP

CONSERVATION DESIGN FORUM

SPRING

SILVER LAKE

PRAIRIE LANDSCAPE

TRANSECT 1

DV-10

PRAIRIE LANDSCAPE

TRANSECT 4

DV-18

PRAIRIE LANDSCAPE

DV-17 TRANSECT 2

TRANSECT 3 DV-13

PRAIRIE LANDSCAPE

SILVER LAKE

LEGEND

- GAS VENT
- TRANSECT LINES
- TOBOGGAN RUN (OUTSIDE OF PROJECT AREA)
- LEACHATE EXTRACTION WELL
- PROJECT BOUNDARY

N
W E
S

Scale: 1" = 200'

0 100 200 400

Landscape Architecture
Ecological Restoration
Ecological Assessment
Resource Management

373 West Polk Street
Chicago, Illinois 60605
630.559.3000 phone
630.559.3003 fax

CONSERVATION DESIGN FORUM

Client:
MWH
175 West Jackson Boulevard
Suite 1900
Chicago, Illinois

Exhibit B

Blackwell Landfill Prairie Restoration

Date: Dec 2004
drawn by HQ
Revisions: SM

Project Number: 04005.00

1

PHOTOGRAPHS

ABOVE Vegetation monitoring Transect 1.

BELOW Vegetation monitoring Transect 2.

ABOVE Vegetation monitoring Transect 3.

BELOW Vegetation monitoring Transect 4.

ABOVE Controlled prairie burn, east of toboggan run (April).

BELOW Clearing weeds on back slope prior to over-seeding (May).

ABOVE Select herbicide application on back slopes (October).

BELOW Prairie seed collection (October).